

Computerized Liquids Quantitative Filling Machine

(User's Manual & Specification) **BAL-2002 2.0E version**



Filler Company Ltd

TEL: 886-2-2593-1616

FAX: 886-2-2586-4587

E-mail:filler@filler.com.tw

<http://www.filler.com.tw>

Content

1. Brief Introduction and Specification	01
2. Diagrammatic Structure	02
3. List of Accessories	03
4. Warnings and Emergency Measures	05
5. Control panel Introduction	06
6. Assembling Procedure	07
7. Disassembling Procedure	10
8. Operation Procedures	11
9. Setting Up Filling Parameters & Function Mode	12
10. Data Sheet	16
11. Appendix (1) Two Years Limited Warranty	17
(2) Proof of Purchase	18
(3) Maintenance Record	19

COMPUTERIZED QUANTITATIVE LIQUIDS FILLING MACHINE -- 1.8 version



Specification:

Dimension:

180mm(H) X 420mm(L) X 370mm(W)

Power Required: Single-phase 220V, 50/60Hz

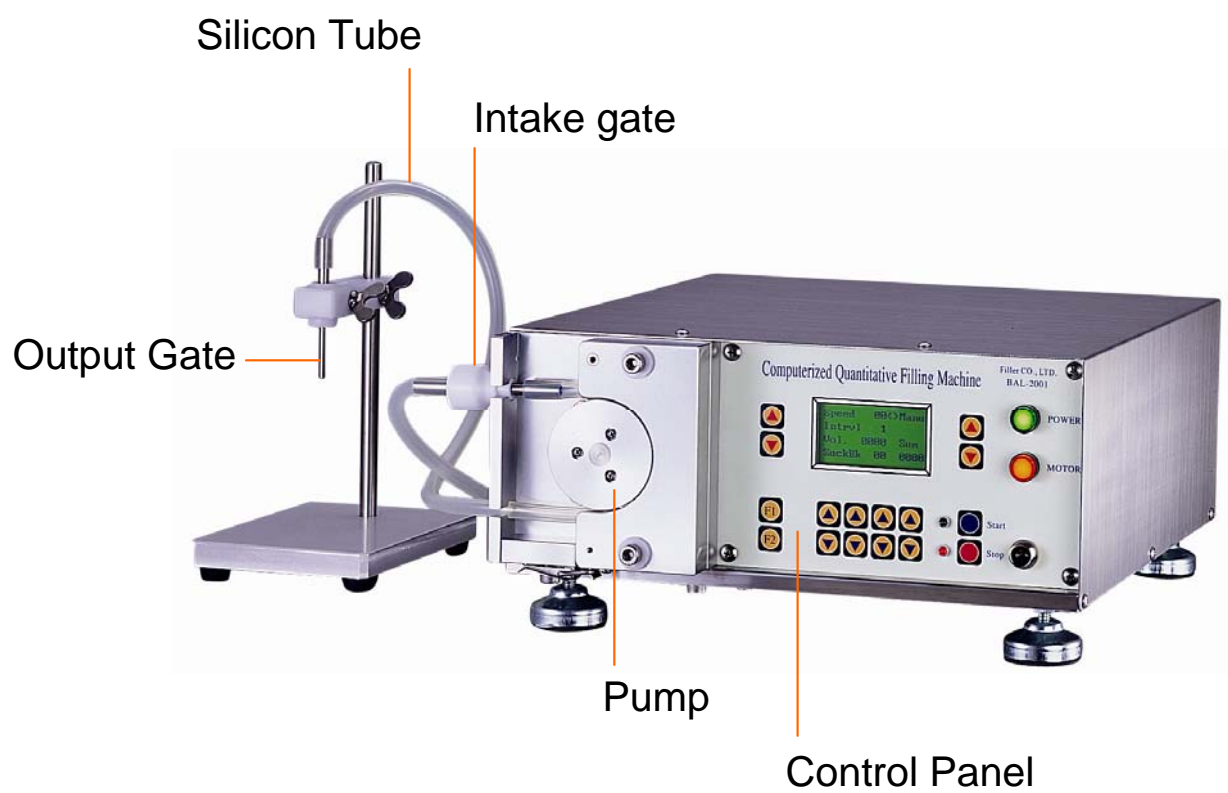
Filling Capacity: 0.1ml ~ 1000ml

WEIGHT: 16 kgs

Brief introduction:

1. With medical grade metering pump and hygienic grade accessories, materials and pump are kept apart during process to meet both hygienic and safe demands.
2. With strong auto-inhale ability, best filling machine **for liquids and light creams**.
3. Computerized control system and LCD in English, filling terms are all digitalized parameter setting, easy operation and accurate metering.
4. In connection with peripheral devices, automatic operation will bring labor cost down.
5. R & D of new models and accessories has been proceeded to meet all customers' need.
6. Suitable for industries of foods, cosmetics and pharmacy in which quantitative filling is necessary.





Diagrammatic Structure:



List of Accessories:

Item	Illustration	Name	Code	Quantity	Description	Remarks
1		Silicon tube	CD-02A	5 Meter	Interchangeable with the pump transmission tube	
2		Extruding Pipe	CD-08	4 PCs		
3		Transmission Tube Cover		1 SET		
4		Transmission tube fixture	CD-05	1 Unit	Plastic- Steel	
5		Connector (Pump tube & output tube)	CD-06	2 PC		
6		Pump transmission tube	CD-02	20 PCs	30-CM	
7		Pedal Switch	CF-38	1 SET	Including the connector	
8		Tool Box	FM-X01	1 BOX		
9		User's Manual	FM-B2002	1 Copy		

List of Accessories:

Item	Illustration	Name	Code	Quantity	Description	Remarks
11		Adjustable container stand	CD-04	1 Unit	Plastic-Steel	
12		Connector		2 PC	(For Connecting Pump tube & Intake tube)	
13		Hexagon Wrench	FM-A01	1 PC	6-mm	
14		Anchor for Intake-Pipe -end	CSF-34	2 PC	Sink the Intake-Pipe end to the bottom of reservoir.	(Stainless)
15						

Warnings & Emergency Measures:

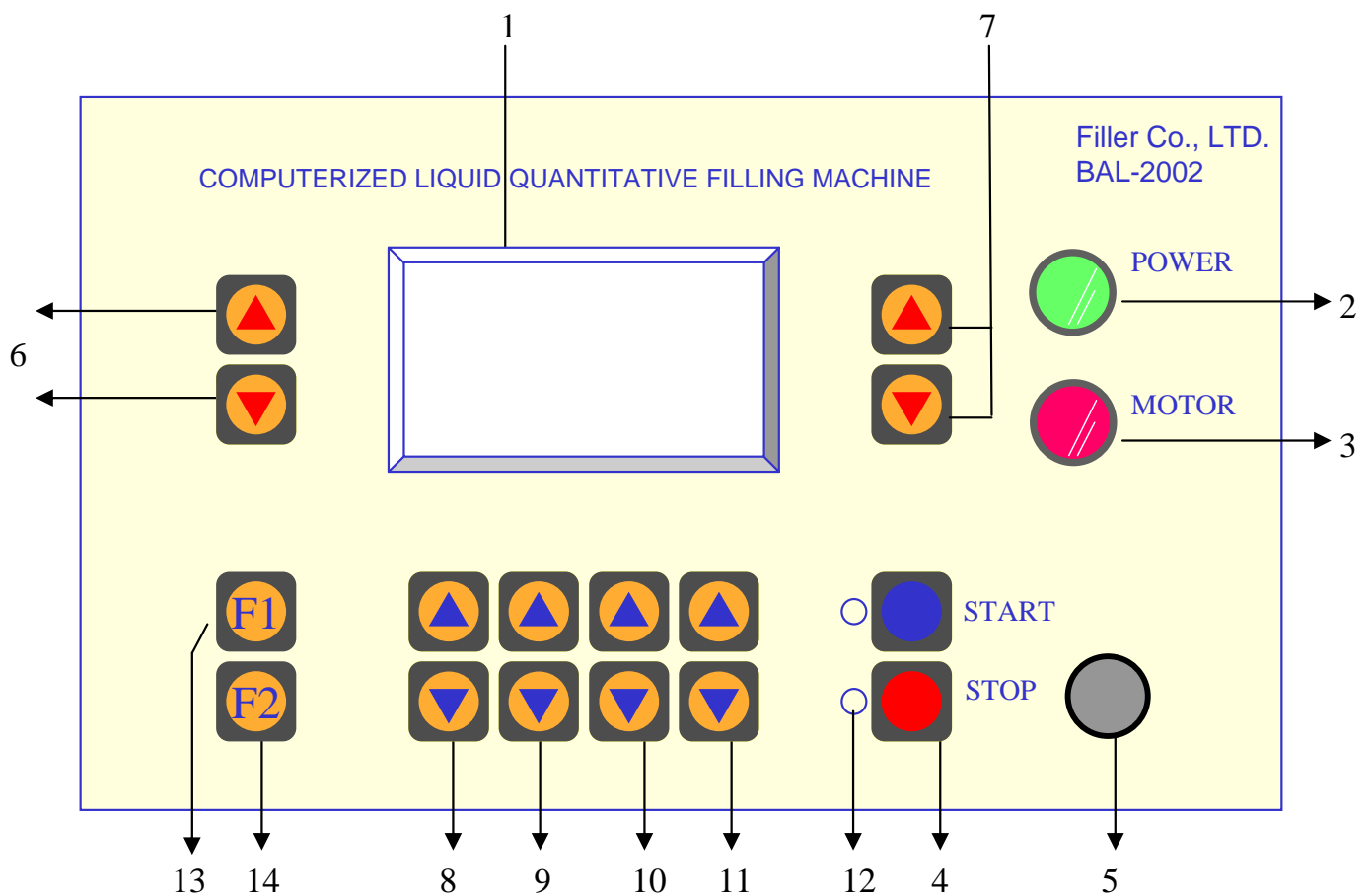
Warnings:

1. This machine are adopted with Japanese serve motor and driver,
Use “single phase 220V” (+/-10% is acceptable) power supply only.
Check if voltage is appropriate before use.
2. Must carefully read through instructions given in this User's Manual
before operating this machine.
3. Connect the ground wire along with the plug properly before use.
Never attempt to dismantle the ground wire.
4. Avoid approaching motor and machine when power is on, in case
of carelessly wrong operation.
5. Switch off the machine if it will not be used for a long time.
6. Disassembling the main body of machine is strictly prohibited.
Action of such automatically results in warranty to be totally
voided.

Emergency Measures:

Immediately unplug the power in case of any abnormal output
continually performed by the machine. Contact us right away
for further assistance.

Control Panel Introduction

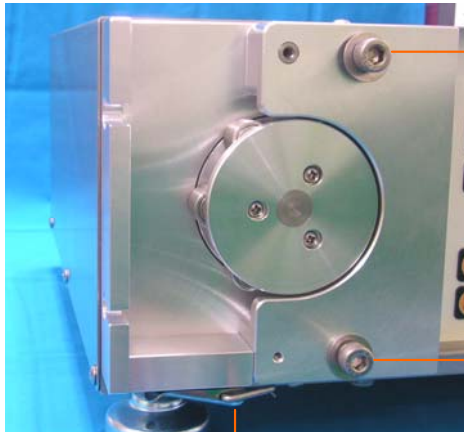


1. LCD shows **filling parameters and function mode** to be set
2. **Power** On/Off
3. **Motor** On/Off
4. **Start/Stop** to fill ("**Stop**" also for canceling the Test no.)
5. Connect "**Pedal** Switch"
6. **Up/Down** keys for the filling parameters on the Left in LCD
7. **Up/Down** keys for the function mode on the Right in LCD
8. **Thousands** digit ---- Increase/ Decrease the number
9. **Hundreds** digit ---- Increase/ Decrease the number
10. **Tens** digit ---- Increase/ Decrease the number
11. **Ones** digit ---- Increase/ Decrease the number
12. Lights indicating Start/Stop of filling action
13. F1 – Record the test no. & change to Manual mode
14. F2 – Reset "**Sum**" in LCD

Assembling procedure:

Please note: Assemble only in Switch-Off condition

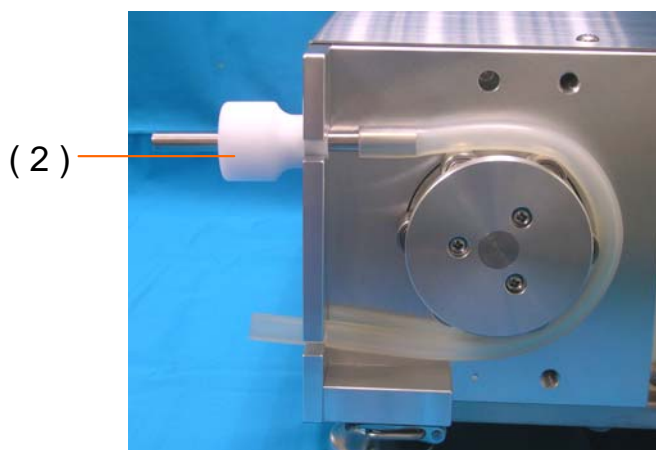
1. Disassemble the screw by Hexagon Wrench and loose the buckle (1) to take off the cover.



(Hexagon Wrench)

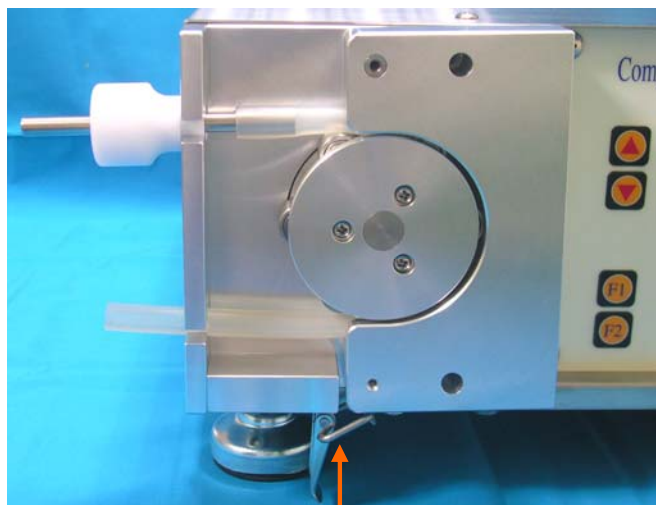
(1)

2. Put on the pump transmission tube connecting with the connector (2).



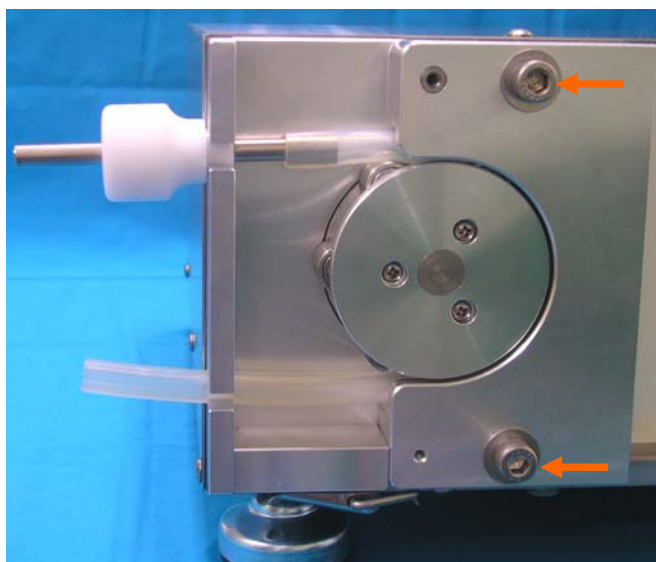
(2)

3. Put on the cover and fasten the buckle (1).

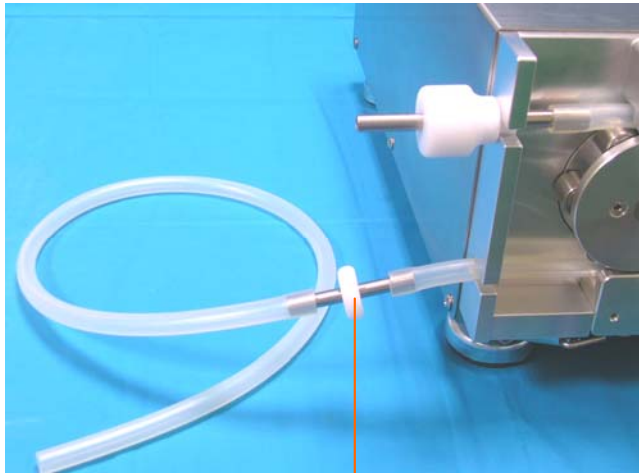


(1)

4. Lock the screw pointed by the red arrow.

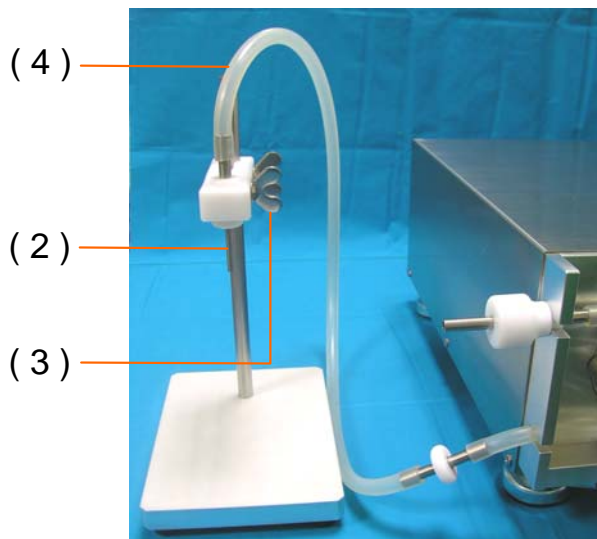


5. Put the output silicon tube on the connector (1).



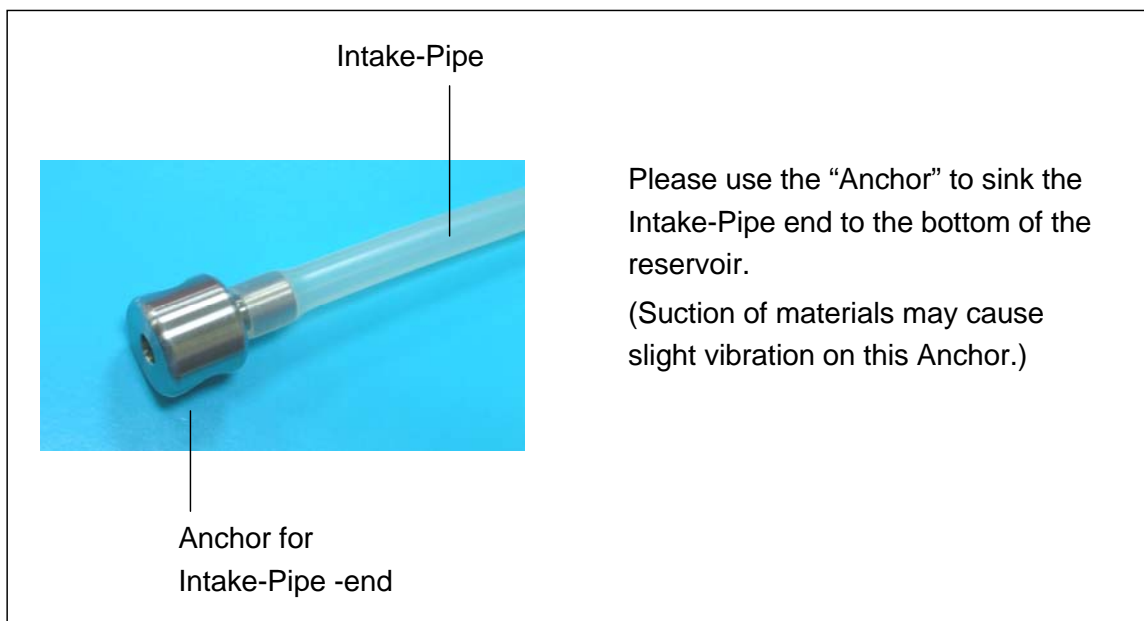
(1)

6. Fix the extruding pipe (2) on the fixture and lock it (3).
Connect the output silicon tube (4) , then put on the intake silicon tube (5).



(5)

Using of Intake-Pipe-end Anchor:



Disassembling procedure:

Please note: Disassemble only in Power Switch-Off condition

1. Basically, disassembling procedure is the reverse of assembling procedure.
2. Disassembling procedure can only be performed while machine is shut-off.

Operation Procedures:

*Remember to always turn the Motor “Off” when you’re away from the machine.

1. Double check if all parts are properly assembled according to Assembling Procedures.
2. Connect the intake tube to the connector and put into the material reservoir.
3. Turn the Power On.
4. Adjust Filling Parameters and Function Mode.
(Please see “Setting Up Filling Parameters” on the next page.)
5. Turn the Motor on.
6. Properly place the bottle under the Extruding Pipe.
The height of Extruding Pipe is adjustable on the filling stand.
7. Press the “Start” button and intended material will be metered and filled into the bottle.
8. Repeat step 6 and 7 for next filling.

Setting Up Filling Parameters and Function Mode on LCD

Please note:

- (a) All the figures set for the parameters LCD are to be used as “indicators” to achieve desired precision.
- (b) With built-in time-delayed protection, machine will “restart” 15 seconds after being shut down.

1. **Speed (00 ~19):** “00” gives minimum speed at 2.0 ml per second, and “19” gets maximum 40 ml per second. In between, the output quantity increases 2.0 ml while the number goes up “1”. When speed is high, the extrusion of material may cause splash, heavy drops, bubbles, etc. according to its nature. Before the formal filling begins, please try out various speed levels until best outcome is achieved.
2. **Interval (0~9):** This represents a short period of time given to allow flexible movement (such as changing or replacing bottles) during continual (**Auto mode only**) operation. Please be aware that setting the number of this parameter is necessary only when Auto mode is selected (functional cursor pointing at **Auto** in LCD). Number “0” gives minimum interval at 0.5 second. As the number goes up 1, interval increases by 0.5 second. The maximum interval is 4.5 seconds between fillings.
3. **Suck Back (00~99):** This design help to prevent unnecessary dripping to ensure precise volume filled, and keep the workplace clean. “00” is good for “**liquid**” type material as such is light enough not to let gravity pull any drops down. The number should go up while the weight and viscosity of material increase. Before actual operation starts, please try setting the number from lower level then increase until there’s no dripping after each fills.

4. Volume (Filling quantity)(0000 ~ 9999):

* Please note: the volume number is not equal to the ml. This number is only an arbitrary, reference unit.

Therefore, the calibration for your first bottle is recommended.

- (1) Move the function mode to "Test". Measure the desired volume, then memorize this number by F1. After finishing the parameter setting, start the filling task.

Details please refer to the later paragraph (6. Test).

We recommend this kind of calibration.

- (2) Machine's built-in computer program takes "12" as the factor to convert the desired actual output volume (in ml) into a figure capable of telling machine to act based on minute difference. Actual output can be achieved by using below equation:

"Actual Output Volume (in ml) x 12 = The Number to be Set Here"

For example, to obtain 50ml perfume extruded from the machine, use the equation $50 \times 12 = 600$, you may set the Number at 600.

Filling quantity increases by 0.08ml ~ 0.10ml as one grade grows, the exact amount depends on the material type.

The range of filling capacity is 0.08ml~800ml.

5. Sum: This number shows how many times the extrusion of material have been performed by the machine. Therefore, in actual working, it represents the bottles number already filled.

To re-zero, press F2 key.

We've added a small safety feature here: The machine will not operate while the cursor (on the right hand side of LCD) is pointing the "Sum". In another words, machine only starts taking command (Start or Stop) while the cursor is clearly pointing at "Test", "Manu", or "Auto".

6. Test: This mode provide easy calibration for your first bottle.

First, move the cursor pointing at “Test” in LCD, set proper levels for “Speed” and “Suck Back”, **leave “Volume” at “0000”**.

(Note: Under “Manu” and “Auto” mode, machine will not operate when Volume is left at “0000”).

You can start extruding material into a bottle by pressing the “Start” button or “Pedal Switch”.

This action can be stopped and still continual until the bottle is filled at the level you desired. You can also weight the filled bottle for precise quantity.

The total volume filled will be shown on the LCD as well.

Then, press **F1** key to memorize this number. Then the function cursor is automatically moved to “Manu” mode. Now the calibration is accomplished.

You may stay at this Manu mode to fill bottles one at a time, or further move the function cursor to “Auto” and start a continual operation.

Under both modes, the following bottles will be filled with exactly equal volume.

Please Note:

When the Speed has been significantly changed during operation, the output Volume may be slightly shifted too.

Re-calibration on volume may be therefore needed.

7. Manu: Selecting this function mode gives a **one-time filling action** every time when you:

- (i) Press the Start key on the Control Panel, or
- (ii) tap the Pedal Switch.

Please use this mode to handle small quantity of filling, or to settle practice before a large number of automatic fillings (Auto mode) starts.

(Note: Under “Manu” mode certain numbers must be set for “Speed”, “Suck Back”, and “Volume” to make machine operate.)

8. Auto: Selecting this function will enable machine to **automatically** repeat filling action according to previously set parameters of Speed, Interval, Volume, and Suck Back. Press Start key on the Control Panel to begin automatic operation; and Stop key to end it.

After turned off and restart, the filling machine will memorize all parameters (except the MODE, which will be in Manual) in last operation. You can use these setting to continue filling task or reset any parameters.

Since the machine memorizes only one latest setting, please still keep necessary records in your log or note book.

Data Sheet:

Product Name: _____		
Product Code: _____		Date: _____
Actual desire volume	Setting Volume	Setting Speed

Note:

- 1. Output volume will be reproducible only under the same speed.
When the speed has been significantly adjusted, the setting on volume may need to re-adjust.*
- 2. We recommend you to recalibrate the volume frequently to keep best accuracy.*

Product Name: _____		
Product Code: _____		Date: _____
Actual desire volume	Setting Volume	Setting Speed

(Please photocopy if applicable.)

Two Years Limited Warranty - Worldwide

Filler Co. warrants their standard products against defects in their operation and non-consumable materials under normal use for a period of Two (2) YEARS from the date of purchase by the original purchaser ("Warranty Period"). When a non-consumable hardware defect arises within the Warranty Period, a claim written in detail is to be received by Filler Co. within 30 days of the date the defect was discovered. At its option, Filler Co. will either (1) repair the hardware defect at no charge, using new or refurbished replacement parts, or (2) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product. This Limited Warranty does not apply to the damage caused by failure to either (1) follow instruction relating to the product's use, or (2) handle, fill, transmit, wash, clamp, and/or manufacture the materials that are feasible and agreed upon through product testing beforehand and under general industrial acceptance.

Except as provided in this Warranty and to the extent permitted by law, Filler Co. shall not be liable for any direct, special, incidental, or consequential damages of any kind, including, but not limited to any expenses for removal or reinstallation resulting from a defect; loss of use; loss of revenue; loss of actual or anticipated profits (including loss of profits on contracts); loss of the use of money; loss of anticipated savings; loss of business; loss of opportunity; loss of goodwill; loss of reputation; loss of, damage to or corruption of material; or any indirect or consequential loss or damage howsoever caused including the replacement of equipment and property, any costs of recovering, programming, or reproducing any material stored, filled, transmitted, handled, washed, clamped or used with Filler Co.'s products.

In practical terms:

- 1) We warrant this machine with quality of performing steady operation in normal use (based on existing industrial standard) according to its design, for two years counting from the date of purchase. .
- 2) Parts that are considered consumables (such as Filling Pipe, Hand-held extension Pipe, Intake Pipe, etc.) are not covered under this warranty.
- 3) Parts & labor will be charged additional if the breakdown of machine is due to following:
 - Unauthorized disassembling of the machine.
 - Unauthorized operation based on instructions NOT included in User's Manual.
 - Inappropriate power supply voltage applied.
 - Damage from rats, insects, poor working condition, and natural disasters.
 - Accident caused by failure in following instructions on assembling, disassembling, and cleaning procedures. (for example, sinking/soaking machine into water)

*** Proof of Purchase ***

User Name		
Address		
Article		
Purchase Date		
Manufacturer	Filler Co., Ltd.	Signature
Model	BAL-2002	
TEL	886-2-25931616	
FAX	886-2-25864587	

1. We warrant the quality of this machine, in normal use, for two years from the date of purchase. Consumables are not under warranty.
2. Under warranty, partial material costs and service charges are necessary to repair the breakdown owing to:
 - (a) Irregular use against the User's Manual
 - (b) Unauthorized disassembling
 - (c) Inappropriate power supply voltage applied
 - (d) Private modification
 - (e) Disasters, rats and insects
 - (f) Personal factors (sinking / soaking into water) to cause severe damage

Maintenance Record

[illegible]